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1**ORDINANCE AMENDMENT REVIEW SHEET**

Amendment: C20-2014-029, site-specific amendments to City Code Section 25-8-514 (*Save Our Springs Initiative, Pollution Prevention Required*)

Description: Consider an ordinance granting site-specific amendments to City Code Section 25-8-514 (*Save Our Springs Initiative, Pollution Prevention Required*) to allow redevelopment of St. Catherine of Siena Church (SP-2014-0476C) to exceed impervious cover limits, modify water quality requirements, and allow construction of water quality controls in the Critical Water Quality Zone.

In addition to the site-specific code amendments, the ordinance also includes a variance to City Code Section 25-8-261 (*Critical Water Quality Zone Development*) to allow construction of water quality controls in the Critical Water Quality Zone.

Proposed Language: See attached draft ordinance.

Summary of proposed code changes:

- 1) Increase allowed impervious cover from 15% to 56.14%.
- 2) Allow runoff from the development to be managed through water quality controls treating the redeveloped area that comply with Section 25-8-213 (*Water Quality Control Standards*) or are approved under Section 25-8-151 (*Innovative Management Practices*).
- 3) Allow construction of water quality controls in the Critical Water Quality Zone.

Background: Initiated by Council Resolution No. 20141211-107.

St. Catherine of Siena Church is located at 4800 Convict Hill Road. The property is located in the Williamson Creek watershed within the Barton Springs portion of the Edwards Aquifer Recharge Zone. The church is proposing to demolish an existing one story building and replace it with a two story building in approximately the same footprint. Redevelopment of the property is subject to current code. If the property redeveloped under Section 25-8-26 (*Redevelopment Exception in the Barton Springs Zone*), code would require water quality treatment for the entire property and mitigation land or payment of money to acquire land based on the amount of impervious cover on the entire tract. The church wishes to redevelop a portion of the property without providing water quality treatment for the entire property or providing mitigation for existing impervious cover.

The ordinance is being brought forward in response to a request by the City Council contained in Resolution No. 20141211-107, which directed the City Manager to work with the applicant to bring an ordinance to Council that:

1. Allows no increase in the existing amount of impervious cover on the site;
2. If feasible, decreases the amount of impervious cover on the site; and

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3. Provides water quality treatment consistent with Section 25-8-26 (*Redevelopment Exception in the Barton Springs Zone*) for all redeveloped areas and to the extent feasible for the entire site.

Staff Recommendation: Staff recommends approval of the proposed ordinance; please see the attached memorandum to the Environmental Commission for additional details.

Board and Commission Actions:

August 19, 2015: The Environmental Commission recommended approval of the proposal on an 11-0 vote; please see the attached motion for additional details.

Council Action:

December 11, 2014: Council passed Resolution No. 20141211-107 on consent.

September 17, 2015: A public hearing has been set for October 15, 2015.

Ordinance Number: N/A

City Staff: Chuck Lesniak, Environmental Officer, Watershed Protection Department

Phone: 974-2699

Email: chuck.lesniak@austintexas.gov



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MEMORANDUM

TO: Dr. Mary Gay Maxwell, Chair and Commissioners
Environmental Commission

FROM: Chuck Lesniak, Environmental Officer
Watershed Protection Department

DATE: August 14, 2015

SUBJECT: SOS and Other Code Amendments for St. Catherine of Siena Renovation SP-2014-0476C

On the August 19, 2015 Environmental Commission agenda is a proposed amendment to the City's Save Our Springs ordinance. The ordinance is being brought forward in response to a request by the City Council contained in Resolution #20141211-107 which requested the City Manager to work with the applicant bring an ordinance to Council that:

1. Allows no increase in the existing impervious cover;
2. If feasible, decreases the amount of impervious cover on the site; and
3. Provides water quality treatment consistent with Ch. 25-8-26 (*Redevelopment Exception in the Barton Springs Zone*).

Project Description and Background

St Catherine of Siena is situated on 8.73 acres at 4800 Convict Hill Road (Figure 1) within the Recharge Zone of the Edwards Aquifer. The site has an existing impervious cover of 53.7% or 203,336 square feet. The existing Parish Hall was constructed in 1980 and is in need of redevelopment. St Catherine is proposing to demolish the 1 story, 14,724 square foot (building coverage) Parish Hall and replace it in roughly the same footprint with a 2 story, 21,579 square foot Parish Hall and Narthex. The entire redevelopment is proposed over existing impervious cover and no new impervious cover is proposed.

The Barton Springs Zone Redevelopment Exception (BSZRE) Ch. 25-8-26(E)(6) requires that sites with more than 40% net site area impervious cover provide for sedimentation/filtration ponds for the entire site or SOS ponds for a portion of the site with sedimentation/filtration ponds for the remainder. After submittal of a site plan to the City, it was discovered that the 100 year floodplain had increased on the site and staff is requesting additional drainage easements across the site accordingly. Although there are no existing or proposed buildings in the floodplain, there is no site area available outside of the floodplain or Critical Water Quality Zone to provide for additional development on the site or for the required onsite water quality controls noted above (Figures 2 and 3). As there is no partial redevelopment exception or flexibility with this section of the Code, the only option for partial redevelopment of this site is to seek an amendment to Ch. 25-8-514 (Save Our Springs) and a variance to Ch. 25-8-261 (Critical Water Quality Zone Development).

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Project Review

Staff from the Watershed Protection and Development Services Departments have been working with the engineer for the applicant to meet the terms of the Council resolution. Since this was a request from Council a recommendation from staff is not necessary, however, staff is able to recommend the proposal because the applicant was able to design their project to be consistent with the 2013 staff proposal for an amendment to the BSZRE. As background, in 2013 as part of the Watershed Protection Ordinance staff recommended amending the BSZRE to, among other changes, only require water quality treatment for the redeveloped portion of the property. Council rejected the staff proposed amendments because they felt it was a late addition to the Watershed Protection Ordinance and additional stakeholder input was desired. Table 1 provides a summary of the 2013 proposed changes to the BSZRE.

Table 1 – Comparison of current redevelopment requirements and 2013 proposed amendments.

Description	Current BSZRE Requirements	Proposed 2013 Amendments
<i>Eligible Land Uses</i>	Limits the use of the exception to sites with existing commercial development.	Extend the use of the exception to all types of existing development except single-family residential and duplex properties.
<i>Partial Site Redevelopment</i>	Requires the redevelopment to provide water quality treatment and off-site land mitigation for the entire site.	Allow the redevelopment exception to be applied to a portion of a site rather than the entire site.
<i>Multifamily Units & Council Approval</i>	Projects with more than 25 total multifamily units must receive Council approval.	Allow projects to propose 25 additional multifamily units without Council approval (rather than 25 total multifamily units).
<i>Civic Uses & Council Approval</i>	Projects proposing redevelopment of an existing civic use must receive Council approval.	Allow projects with an existing civic use to be approved without Council approval.

Staff still supports the 2013 changes and these are likely to be proposed again in the future. The St. Catherine project will be able to provide pollutant load reduction similar to what would have been required if the amendments had been approved and so this provides a useful benchmark for comparison. The only significant difference is that both current code and the 2013 staff proposal would require paying a mitigation fee to offset the increased impervious cover. These fees are used by the City to purchase land or development rights on the Edwards Aquifer to reduce development on the Aquifer. St. Catherine's is proposing to treat some untreated areas, which somewhat offsets the lack of a mitigation fee. Below is a comparison of the pollutant loadings in three scenarios; current code, 2013 proposed amendments, and the St. Catherine proposal.

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Table 2 – Comparison of pollutant load reduction.

Pollutant	Reduction in Pollutant Load		
	Current Code	2013 Staff Proposed Amendment (Incl. Mitigation)*	St. Catherine's Proposal
COD	-56.26%	-12.97%	-16.35%
E. coli	-69.66%	-9.45%	-14.03%
Pb	-47.18%	-18.17%	-20.24%
TN	-39.65%	-13.13%	-11.07%
TOC	-32.60%	-12.87%	-10.29%
TP	-62.30%	-10.48%	-13.39%
TSS	-79.26%	-6.06%	-15.03%
Zn	-53.39%	-16.61%	-20.24%
Mitigation fee	\$361,301 (15 ac.)	\$48,173 (2 ac.)	\$0

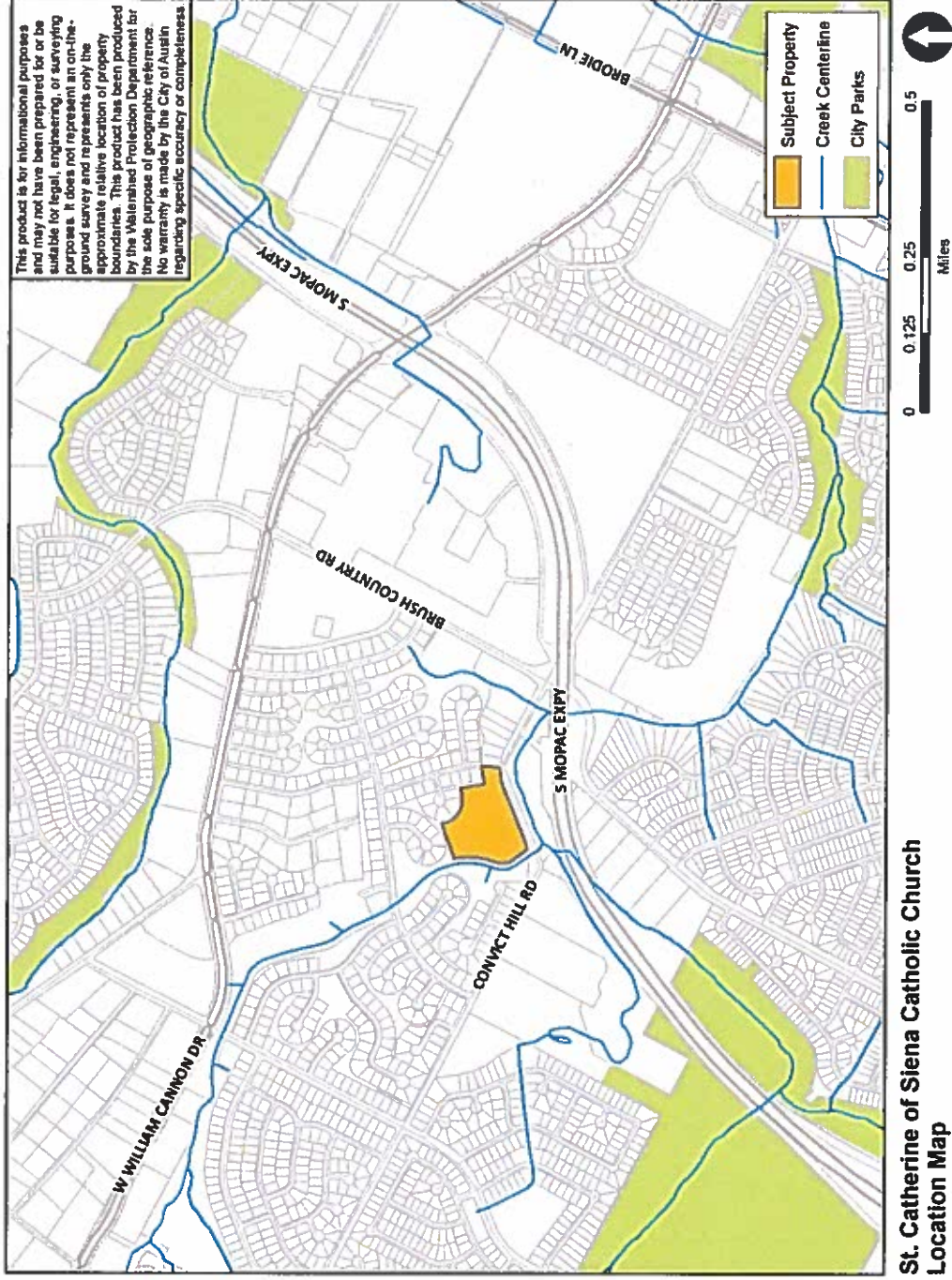
*Includes the calculated pollutant load reduction value of 2 acres of mitigation land.

Recommendation

Although there is significantly less water quality benefit to the proposed project than if it were to comply with current code, staff recommends approval of the proposed amendment for the following reasons:

- The project has met the terms of the Council resolution.
- The project complies with the water quality requirements of the 2013 staff supported amendments to the BSZRE.
- Even though the project does not include payment of a fee for purchase of mitigation land, the treatment of areas outside the redevelopment area provides offset for the lack of fee payment.
- The proposed project is a civic use that is used by many in the community which has limited resources and the project is proposing to treat untreated areas to offset the failure to pay the mitigation fee.
- Because of the significant expense for compliance with current code and the church's limited resources, the project is unlikely to go forward without the amendment and so there would be no improvement in water quality for the site.
- The project provides an opportunity for public discussion of a potential future amendment to the BSZRE.

Figure 1



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Figure 2

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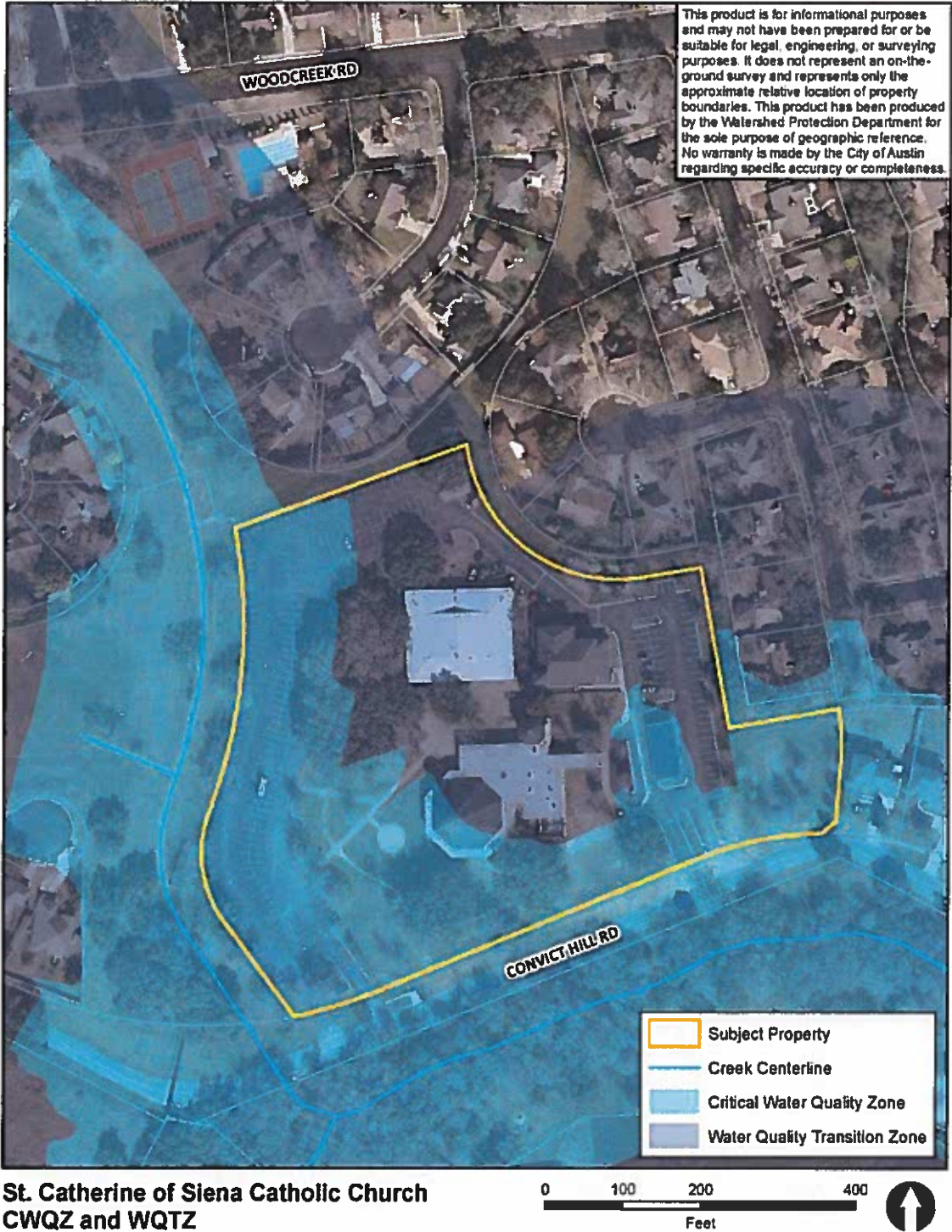
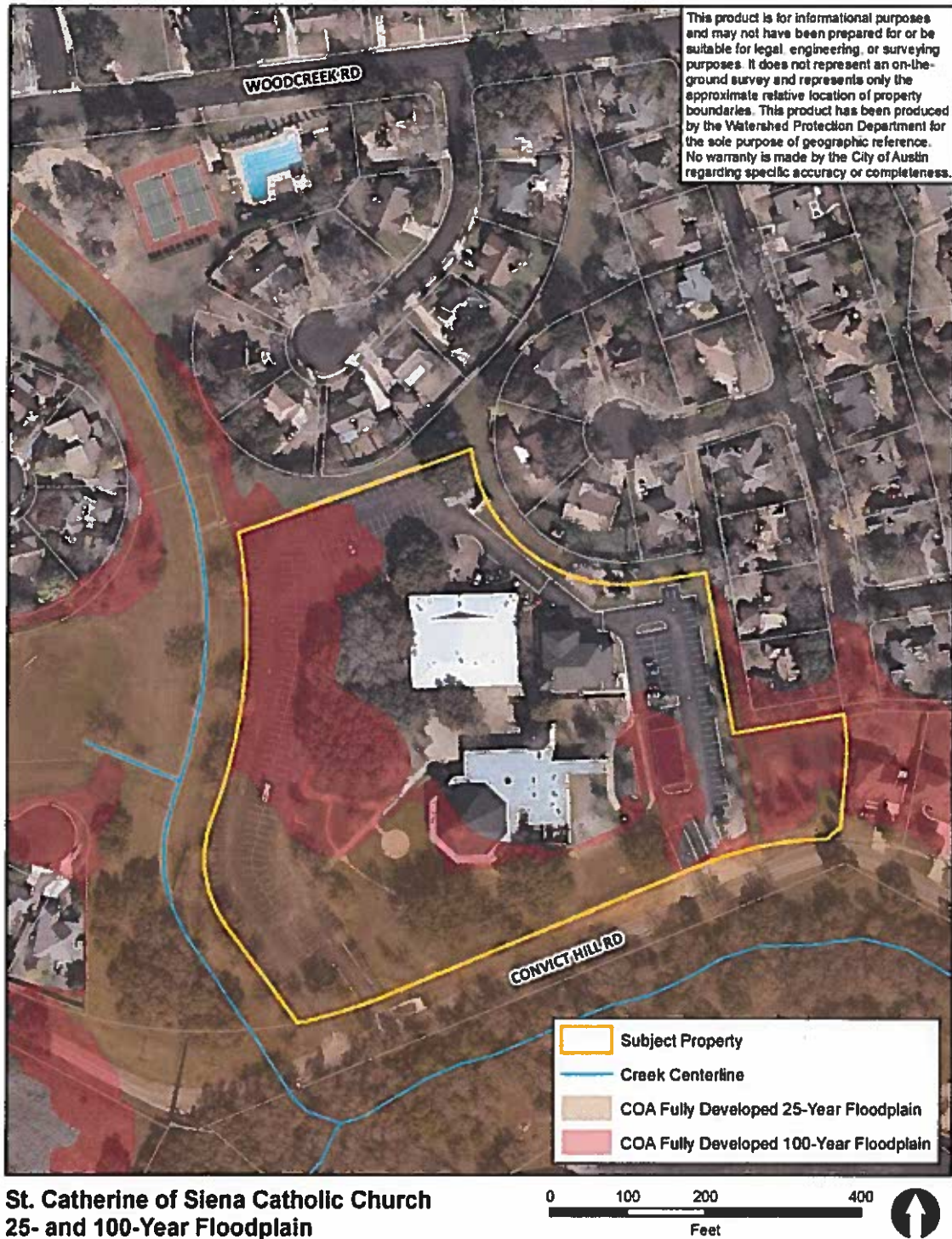


Figure 3

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**ENVIRONMENTAL BOARD MOTION 20150819 008b
REVISED**

Date: August 19, 2015

Subject: St. Catherine of Siena Church Improvements SP-2014-0476C

Motion By: Hank Smith

Second By: Mary Ann Neely

RATIONALE:

Whereas, the project has met the minimum in terms of the Council resolution, and

Whereas, the water quality treatment of areas outside the redevelopment area provides offset for the lack of mitigation land, and

Whereas, the project is a civic use that is used by many in the community with limited resources, and

Whereas, the project is unlikely to go forward without the amendment due to cost and limited church resources and so there would be no improvement in water quality, and

Whereas, the project provides an opportunity for public discussion of a potential future amendment to the Barton Springs Zone Redevelopment Exception.

Therefore, the Environmental Commission recommends approval of the request to amend City Code Section 25-8-514 (Save Our Springs) and Section 25-8-261 (Critical Water Quality Zone Development) to allow the proposed redevelopment to exceed impervious cover limits, modify water quality requirements and allow specific development within the Critical Water Quality Zone.

VOTE 11-0-0-0

Recuse: None

For: Perales, Thompson, Gooch, Neely, Moya, Maceo, Maxwell, B. Smith, Creel, H. Smith, Grayum

Against: None

Abstain: None

Absent: None

Approved By:

Mary Gay Maxwell

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Mary Gay Maxwell, Environmental Board Chair

AN ORDINANCE GRANTING SITE-SPECIFIC AMENDMENTS TO SECTION 25-8-514 OF THE CITY CODE AND A VARIANCE TO SECTION 25-8-261 OF THE CITY CODE TO ALLOW REDEVELOPMENT OF THE ST CATHERINE OF SIENA CHURCH.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF AUSTIN:

PART 1. The site-specific code amendments and variance granted in this ordinance apply to the St. Catherine of Siena church redevelopment project as proposed in and subject to Site Plan Number SP 2014-0476C.

PART 2. IMPERVIOUS COVER, WATER QUALITY CONTROLS.

City Code Section 25-8-514 (*Pollution Prevention Required*) is amended to:

- (1) allow impervious cover in excess of 15%, and
- (2) allow runoff from the development to be managed through water quality controls treating the redeveloped area that comply with Section 25-8-213 (*Water Quality Control Standards*) or are approved under Section 25-8-151 (*Innovative Management Practices*).

PART 3. CRITICAL WATER QUALITY ZONE.

A variance is granted from City Code Section 25-8-261 (*Critical Water Quality Zone Development*) and City Code Section 25-8-514 (*Pollution Prevention Required*) is amended to allow construction of on-site water quality controls in the critical water quality zone.

PART 4. CONDITIONS.

Construction of the St. Catherine of Siena Church redevelopment project authorized by this ordinance must adhere to the following conditions:

- (1) Water quality controls shall treat 15,769 square feet of impervious cover in addition to the redeveloped area;
- (2) Water quality controls shall achieve the minimum pollutant load reductions as specified in the attached and incorporated **EXHIBIT A**;
- (3) Impervious cover added with the redevelopment must be placed over existing impervious cover, except the safe access path ;

Cb/n

9/16/15 DRAFT

- (4) Total impervious cover on the site shall not exceed 202,717 square feet;
and
- (5) Development in the critical water quality zone is limited to the required
water quality controls.

PART 5. This ordinance takes effect on _____, 2015.

PASSED AND APPROVED

_____, 2015

§
§
§

Stephen Adler
Mayor

APPROVED: _____
Anne L. Morgan
Interim City Attorney

ATTEST: _____
Jannette S. Goodall
City Clerk

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13**EXHIBIT A
to ORDINANCE NO.****St. Catherine of Siena Church Redevelopment
Minimum Pollutant Load Reductions**

Pollutant		% Reduction from Existing Conditions
COD	lbs/yr	-16.35%
E. coli	10 ⁶ MPN/yr	-14.03%
Pb	lbs/yr	-20.24%
TN	lbs/yr	-11.07%
TOC	lbs/yr	-10.29%
TP	lbs/yr	-13.39%
TSS	lbs/yr	-15.03%
Zn	lbs/yr	-20.24%

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RESOLUTION NO. 20141211-107

WHEREAS, the Save Our Springs Initiative regulations (Land Development Code Chapter 25-8, Subchapter A, Article 13 "SOS") are vital to protecting the Hill Country's rich network of aquifers and to Austin's long-term water management plan; and

WHEREAS, alongside the City's vitally important commitment to SOS and longstanding tradition of environmental stewardship, there is also a need for flexibility and consideration of the unique challenges and opportunities that development of particular tracts can present; and

WHEREAS, St. Catherine of Siena Church, located at 4800 Convict Hill, has an existing one story building that was constructed in the 1980s and is located in the Barton Springs Zone; and

WHEREAS, in order to redevelop St. Catherine of Siena while not expanding impervious cover and improving environmental controls, site specific variances and amendments to the Land Development Code, including SOS, would be required; **NOW, THEREFORE,**

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF AUSTIN:

The City Council initiates site specific variances and amendments to the Land Development Code, including Chapter 25-8, Subchapter A, Article 13 (*Save Our Springs Initiative*), as necessary to address proposed redevelopment and expansion of the St. Catherine of Siena Church, located at 4800 Convict Hill Road.

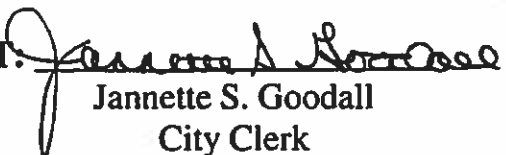
C6/15

BE IT FURTHER RESOLVED:

The City Manager is directed to work with representatives of St. Catherine of Siena Church to minimize departure from code requirements and maximize environmental protection and return to Council with an ordinance that:

- a. allows no increase in the existing amount of impervious cover on the site;
- b. if feasible, decreases the amount of impervious cover on the site; and
- c. provides water quality treatment consistent with City Code Section 25-8-26 (*Redevelopment Exception in the Barton Springs Zone*) for all redeveloped areas and to the extent feasible for the entire site.

ADOPTED: December 11, 2014

ATTEST: 
Jannette S. Goodall
City Clerk

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Supporting Documents Provided by the Applicant

SOS AMENDMENT SUMMARY- ST CATHERINE OF SIENA

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St Catherine of Siena is situated on 8.73 acres at 4800 Convict Hill Road within the Recharge Zone of the Edwards Aquifer. The site has an existing impervious cover of 56.58% or 204,302 square feet. The existing Parish Hall was constructed in 1980 and is in need of redevelopment. St Catherine is proposing to demolish the 1 story, 14,724 square foot (building coverage) Parish Hall and replace it in roughly the same footprint with a 2 story, 36,000 square foot Parish Hall and Narthex. The entire redevelopment is proposed over existing impervious cover and no new impervious cover is proposed.

In 2013, City Council passed the Redevelopment Ordinance Exception (Ordinance No. 20131017-046). The Redevelopment Ordinance enacted Section 25-8-26(E)(6) of the City Code, which requires that sites with more than 40% net site area impervious cover provide for sedimentation/filtration ponds for the entire site or SOS ponds for a portion of the site with sedimentation/filtration ponds for the remainder. After submittal of a site plan to the City, it was discovered that the 100 year floodplain had increased on the site and staff is requesting additional drainage easements across the site accordingly. Although there are no existing or proposed buildings in the floodplain, there is no site area available outside of the floodplain/CWQZ to provide for the required onsite water quality controls noted above.

Due to the increased floodplain, safe access must be provided to a dedicated public right-of-way. As Convict Hill is covered in floodplain, a safe access pedestrian path is proposed through existing easements in the adjacent neighborhood. While the safe access path is not considered impervious cover, it is away from the drainage area and proposed water quality treatments, and is therefore unable to be treated for water quality. Thus, the safe access path is also part of the SOS amendment.

During the passage of the Redevelopment Ordinance, staff proposed a partial redevelopment option, which was not approved as a code amendment. Staff continues to work on an option to present to City Council that would better handle partial rather than full redevelopments such as that being proposed with St Catherine of Siena. As there is no partial redevelopment exception or flexibility with this section of the Code today, the only option for partial redevelopment of this site is to seek an amendment to the SOS Ordinance.

The proposal put forth for St Catherine of Siena's partial redevelopment reduces impervious cover, provides for water quality treatment for the redeveloped area and an additional portion of the site that is currently untreated, which lowers overall pollutant loads. Water quality methods employed include raingardens and rainwater collection/re-irrigation. The end result is a decrease of impervious cover to 56.14% or 202,717 square feet. Although unable to meet the current Redevelopment Ordinance Exception, when compared to the staff's 2013 partial redevelopment option, St Catherine of Siena's proposal greatly exceeds the requirements. In doing so, the proposal meets the City Council's intent with the initiation of the SOS amendment (Resolution No. 20141211-107) by allowing no increase in impervious cover and if feasible, decreasing the amount of existing impervious cover in addition to providing for water quality consistent with City Code Section 25-8-26.

This aerial map shows the proposed site for St. Catherine of Siena, outlined in red. The site is located in Oak Hill, Virginia, near the intersection of the Mopac Expressway and the Beltway. Other landmarks include the Hampton Library Branch at Oak Hill, Beckett Meadows Wet Pond, and Old Farm Sink. The map also shows surrounding residential areas and roads like West Oak Cir and Oak Hill Rd.

Hampton Library
Branch at Oak Hill

SMOPAC EXPT

Old Farm Sink

Beckett
Beckwith
Wei Fond

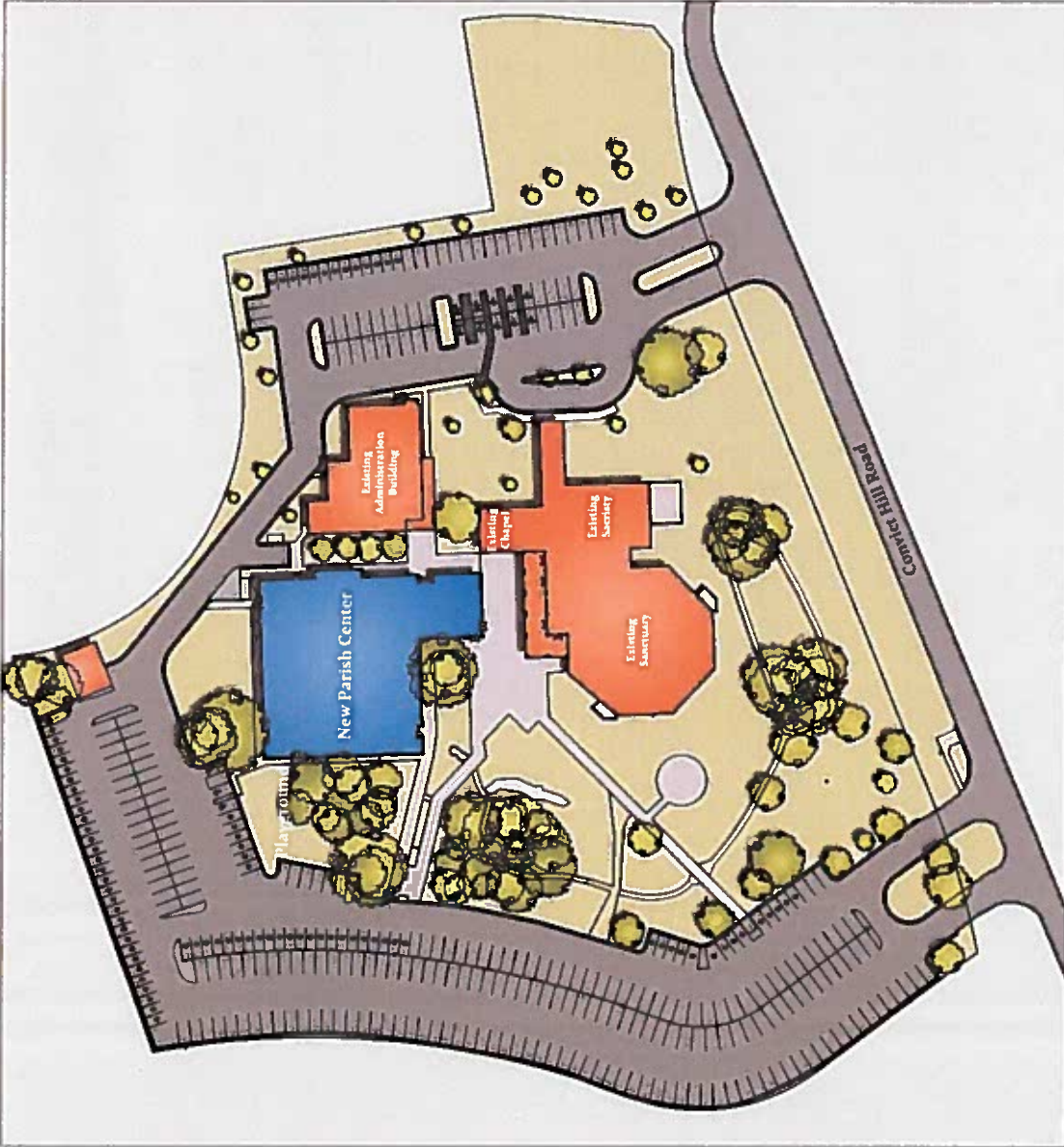
AERIAL VIEW, EXISTING CAMPUS (Google Maps, 2012)



SCHEMATIC DESIGN PROPOSAL

PARISH CENTER AND EXPANDED NARTHEX
ST. CATHERINE OF SIENA CATHOLIC CHURCH | AUSTIN, TEXAS

06/19



CONCEPTUAL SITE PLAN

SCALE: 1" = 50'-0"

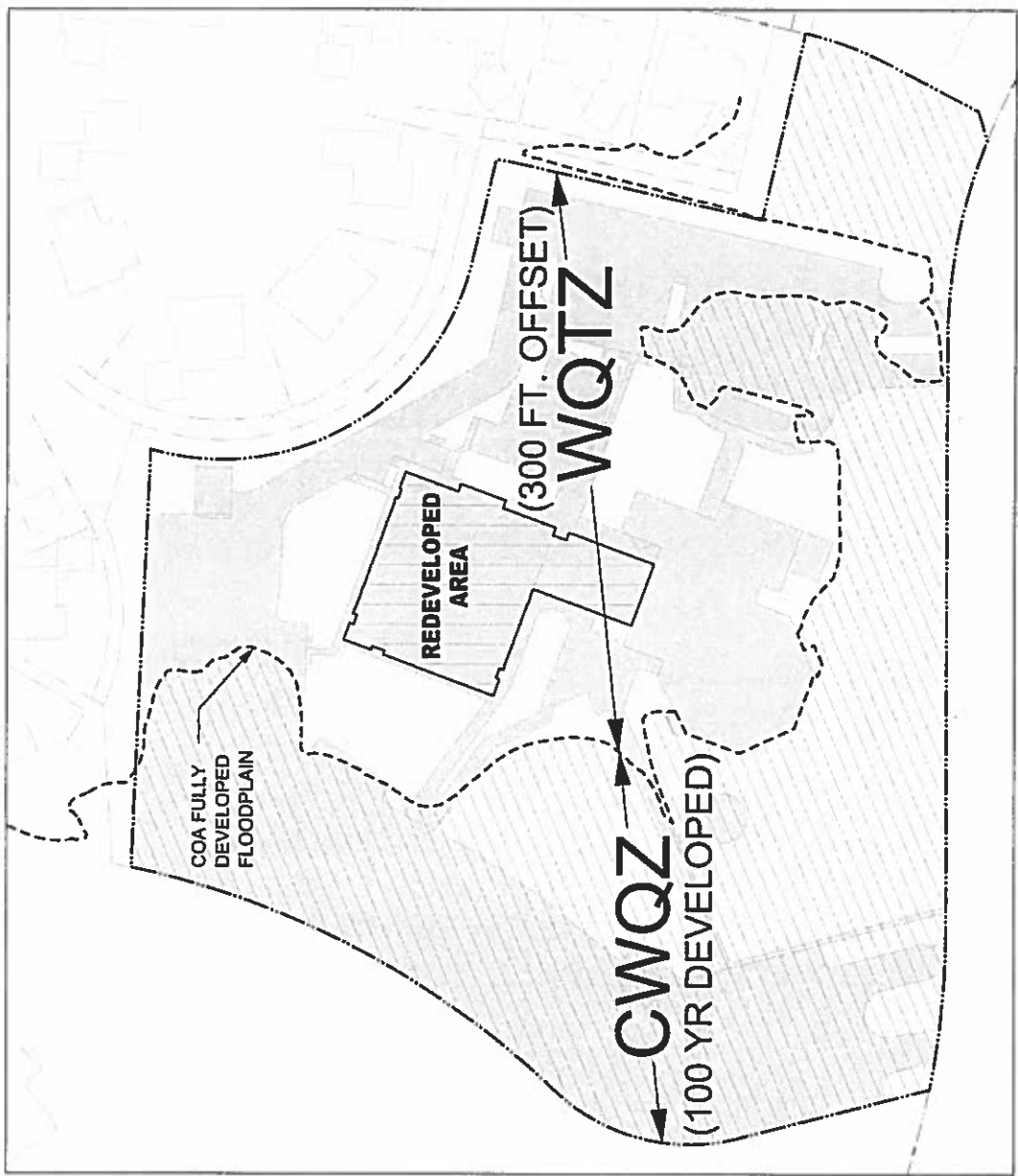
ST. CATHERINE OF SIENA WATER QUALITY SUMMARY

DESIGN COMPONENT	SCENARIO 1 EXISTING CONDITIONS	SCENARIO 2 BSZ RE-DEVELOPMENT ORDINANCE	SCENARIO 3 STAFF PROPOSAL	SCENARIO 4 PROPOSED DEVELOPMENT																																																																																																																																							
NOTES	PREVIOUS DEVELOPMENT: WATER QUALITY PROVIDED FOR ADMINISTRATION BUILDING PROJECT.	ORDINANCE 25-9-26: BSZ RE-DEVELOPMENT REQUIRES 100% WATER QUALITY FOR SITES WITH IMPERVIOUS COVER OVER 40%.	PROPOSED REQUIREMENT: ADD WATER QUALITY FOR ALL RE-DEVELOPED, OR EQUIVALENT, AREAS	PROPOSED: ADD WATER QUALITY FOR UNTREATED, RE-DEVELOPED AREA PLUS ADD WATER QUALITY FOR THE SANCTUARY WHICH IS CURRENTLY "DIRECT RELEASE".																																																																																																																																							
SITE IMPERVIOUS:	1997 - 56.56%	2015 - 56.14%	2015 - 56.14%	2015 - 56.14%																																																																																																																																							
WATER QUALITY SUMMARY	<table><tr><th>SCENARIO 1</th><th>TREATMENT AREA</th><th>TREATED AREA</th><th>IMPERVIOUS %</th><th>WQ VOLUME</th></tr><tr><td></td><td>Acres</td><td>Acres</td><td>%</td><td>Acres</td></tr><tr><td>Scd/18</td><td>2.28</td><td>21.80%</td><td>1.53</td><td>13.545</td></tr><tr><td>Untreated (Direct)</td><td>5.01</td><td>56.10%</td><td>0</td><td>0</td></tr><tr><td>Untreated (Drains)</td><td>1.24</td><td>0.00%</td><td>0</td><td>0</td></tr><tr><td>Total</td><td>9.53</td><td>49.25%</td><td></td><td></td></tr></table>	SCENARIO 1	TREATMENT AREA	TREATED AREA	IMPERVIOUS %	WQ VOLUME		Acres	Acres	%	Acres	Scd/18	2.28	21.80%	1.53	13.545	Untreated (Direct)	5.01	56.10%	0	0	Untreated (Drains)	1.24	0.00%	0	0	Total	9.53	49.25%			<table><tr><th>SCENARIO 2</th><th>TREATMENT AREA</th><th>TREATED AREA</th><th>IMPERVIOUS %</th><th>WQ VOLUME</th></tr><tr><td></td><td>Acres</td><td>Acres</td><td>%</td><td>Acres</td></tr><tr><td>Scd/18</td><td>9.53</td><td>49.30%</td><td>0.79</td><td>27.213</td></tr><tr><td>Untreated (Direct)</td><td></td><td></td><td></td><td></td></tr><tr><td>Untreated (Drains)</td><td></td><td></td><td></td><td></td></tr><tr><td>Total</td><td>9.53</td><td>49.30%</td><td></td><td></td></tr></table>	SCENARIO 2	TREATMENT AREA	TREATED AREA	IMPERVIOUS %	WQ VOLUME		Acres	Acres	%	Acres	Scd/18	9.53	49.30%	0.79	27.213	Untreated (Direct)					Untreated (Drains)					Total	9.53	49.30%			<table><tr><th>SCENARIO 3</th><th>TREATMENT AREA</th><th>TREATED AREA</th><th>IMPERVIOUS %</th><th>WQ VOLUME</th></tr><tr><td></td><td>Acres</td><td>Acres</td><td>%</td><td>Acres</td></tr><tr><td>Scd/18</td><td>1.80</td><td>77.09%</td><td>2.0</td><td>13.545</td></tr><tr><td>Re-irrigation</td><td>0.47</td><td>100.00%</td><td>2.4</td><td>4.313</td></tr><tr><td>Base Garden</td><td>6.02</td><td>46.99%</td><td>0</td><td>0</td></tr><tr><td>Untreated (Drains)</td><td>3.24</td><td>0.00%</td><td>0</td><td>0</td></tr><tr><td>Total</td><td>9.53</td><td>49.30%</td><td></td><td>17.858</td></tr></table>	SCENARIO 3	TREATMENT AREA	TREATED AREA	IMPERVIOUS %	WQ VOLUME		Acres	Acres	%	Acres	Scd/18	1.80	77.09%	2.0	13.545	Re-irrigation	0.47	100.00%	2.4	4.313	Base Garden	6.02	46.99%	0	0	Untreated (Drains)	3.24	0.00%	0	0	Total	9.53	49.30%		17.858	<table><tr><th>SCENARIO 4</th><th>TREATMENT AREA</th><th>TREATED AREA</th><th>IMPERVIOUS %</th><th>WQ VOLUME</th></tr><tr><td></td><td>Acres</td><td>Acres</td><td>%</td><td>Acres</td></tr><tr><td>Scd/18</td><td>1.79</td><td>77.50%</td><td>2.05</td><td>13.545</td></tr><tr><td>Re-irrigation</td><td>0.18</td><td>100.00%</td><td>2.4</td><td>3.998</td></tr><tr><td>Base Garden</td><td>0.53</td><td>81.09%</td><td>1.98</td><td>3.764</td></tr><tr><td>Untreated (Drains)</td><td>5.59</td><td>44.51%</td><td>0</td><td>0</td></tr><tr><td>Untreated (Other)</td><td></td><td></td><td></td><td></td></tr><tr><td>Total</td><td>9.51</td><td>49.30%</td><td></td><td>20.507</td></tr></table>	SCENARIO 4	TREATMENT AREA	TREATED AREA	IMPERVIOUS %	WQ VOLUME		Acres	Acres	%	Acres	Scd/18	1.79	77.50%	2.05	13.545	Re-irrigation	0.18	100.00%	2.4	3.998	Base Garden	0.53	81.09%	1.98	3.764	Untreated (Drains)	5.59	44.51%	0	0	Untreated (Other)					Total	9.51	49.30%		20.507
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Scd/18	1.80	77.09%	2.0	13.545																																																																																																																																							
Re-irrigation	0.47	100.00%	2.4	4.313																																																																																																																																							
Base Garden	6.02	46.99%	0	0																																																																																																																																							
Untreated (Drains)	3.24	0.00%	0	0																																																																																																																																							
Total	9.53	49.30%		17.858																																																																																																																																							
SCENARIO 4	TREATMENT AREA	TREATED AREA	IMPERVIOUS %	WQ VOLUME																																																																																																																																							
	Acres	Acres	%	Acres																																																																																																																																							
Scd/18	1.79	77.50%	2.05	13.545																																																																																																																																							
Re-irrigation	0.18	100.00%	2.4	3.998																																																																																																																																							
Base Garden	0.53	81.09%	1.98	3.764																																																																																																																																							
Untreated (Drains)	5.59	44.51%	0	0																																																																																																																																							
Untreated (Other)																																																																																																																																											
Total	9.51	49.30%		20.507																																																																																																																																							
POLLUTANT REMOVAL	<table><tr><th>POLLUTANT</th><th>Load</th><th>%Reduction</th></tr><tr><td>COB</td><td>lbs/yr</td><td>0%</td></tr><tr><td>E. coli</td><td>10⁶ MPN/yr</td><td>0%</td></tr><tr><td>Pb</td><td>lbs/yr</td><td>0%</td></tr><tr><td>TN</td><td>lbs/yr</td><td>0%</td></tr><tr><td>TDC</td><td>lbs/yr</td><td>0%</td></tr><tr><td>TP</td><td>lbs/yr</td><td>0%</td></tr><tr><td>TSS</td><td>lbs/yr</td><td>0%</td></tr><tr><td>Zn</td><td>lbs/yr</td><td>0%</td></tr></table>	POLLUTANT	Load	%Reduction	COB	lbs/yr	0%	E. coli	10 ⁶ MPN/yr	0%	Pb	lbs/yr	0%	TN	lbs/yr	0%	TDC	lbs/yr	0%	TP	lbs/yr	0%	TSS	lbs/yr	0%	Zn	lbs/yr	0%	<table><tr><th>POLLUTANT</th><th>Load</th><th>%Reduction</th></tr><tr><td>COB</td><td>lbs/yr</td><td>-54.29%</td></tr><tr><td>E. coli</td><td>10⁶ MPN/yr</td><td>-69.86%</td></tr><tr><td>Pb</td><td>lbs/yr</td><td>-47.18%</td></tr><tr><td>TN</td><td>lbs/yr</td><td>-39.63%</td></tr><tr><td>TDC</td><td>lbs/yr</td><td>-32.60%</td></tr><tr><td>TP</td><td>lbs/yr</td><td>-62.30%</td></tr><tr><td>TSS</td><td>lbs/yr</td><td>-70.39%</td></tr><tr><td>Zn</td><td>lbs/yr</td><td>-53.39%</td></tr></table>	POLLUTANT	Load	%Reduction	COB	lbs/yr	-54.29%	E. coli	10 ⁶ MPN/yr	-69.86%	Pb	lbs/yr	-47.18%	TN	lbs/yr	-39.63%	TDC	lbs/yr	-32.60%	TP	lbs/yr	-62.30%	TSS	lbs/yr	-70.39%	Zn	lbs/yr	-53.39%	<table><tr><th>POLLUTANT</th><th>Load</th><th>%Reduction</th></tr><tr><td>COB</td><td>lbs/yr</td><td>-9.96%</td></tr><tr><td>E. coli</td><td>10⁶ MPN/yr</td><td>-7.17%</td></tr><tr><td>Pb</td><td>lbs/yr</td><td>-13.55%</td></tr><tr><td>TN</td><td>lbs/yr</td><td>-8.11%</td></tr><tr><td>TDC</td><td>lbs/yr</td><td>-8.30%</td></tr><tr><td>TP</td><td>lbs/yr</td><td>-7.40%</td></tr><tr><td>TSS</td><td>lbs/yr</td><td>-5.97%</td></tr><tr><td>Zn</td><td>lbs/yr</td><td>-12.88%</td></tr></table>	POLLUTANT	Load	%Reduction	COB	lbs/yr	-9.96%	E. coli	10 ⁶ MPN/yr	-7.17%	Pb	lbs/yr	-13.55%	TN	lbs/yr	-8.11%	TDC	lbs/yr	-8.30%	TP	lbs/yr	-7.40%	TSS	lbs/yr	-5.97%	Zn	lbs/yr	-12.88%	<table><tr><th>POLLUTANT</th><th>Load</th><th>%Reduction</th></tr><tr><td>COB</td><td>lbs/yr</td><td>-16.35%</td></tr><tr><td>E. coli</td><td>10⁶ MPN/yr</td><td>-14.03%</td></tr><tr><td>Pb</td><td>lbs/yr</td><td>-20.24%</td></tr><tr><td>TN</td><td>lbs/yr</td><td>-11.07%</td></tr><tr><td>TDC</td><td>lbs/yr</td><td>-10.29%</td></tr><tr><td>TP</td><td>lbs/yr</td><td>-13.39%</td></tr><tr><td>TSS</td><td>lbs/yr</td><td>-13.03%</td></tr><tr><td>Zn</td><td>lbs/yr</td><td>-20.24%</td></tr></table>	POLLUTANT	Load	%Reduction	COB	lbs/yr	-16.35%	E. coli	10 ⁶ MPN/yr	-14.03%	Pb	lbs/yr	-20.24%	TN	lbs/yr	-11.07%	TDC	lbs/yr	-10.29%	TP	lbs/yr	-13.39%	TSS	lbs/yr	-13.03%	Zn	lbs/yr	-20.24%																											
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MITIGATION	NOT REQUIRED	AVG. 20% I.C. WITH 56.1% I.C. ON ENTIRE SITE. PURCHASE 15 ACRES → \$361,301.00	AVG. 20% I.C. FOR RE-DEVELOPED AREA PURCHASE 2 ACRES → \$48,173.00	NONE: PROVIDE EXTRA WATER QUALITY TREATMENT IN LIEU OF MITIGATION MONEY																																																																																																																																							
SCENARIO 1 EXISTING CONDITIONS		SCENARIO 2 BSZ RE-DEVELOPMENT ORDINANCE	SCENARIO 3 STAFF PROPOSED REQUIREMENT	SCENARIO 4 PROPOSED DEVELOPMENT																																																																																																																																							
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ST. CATHERINE OF SIENA WATER QUALITY SUMMARY
BY: JAMES WALFORD, E. URBAN DESIGN GROUP PC
2/6/20

06/21



ST. CATHERINE OF SIENA
4800 CONVICT HILL ROAD